Harmony Between Earth and Culture: A Geoheritage-Based Tourism Model from Sekotong, West Lombok, West Nusa Tenggara

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Abstract

Sekotong, located in West Lombok, Indonesia, is a region rich in geological diversity, featuring volcanic landscapes, columnar joint formations, coral reef ecosystems, and traces of epithermal gold mineralization. These geological elements form a significant part of Sekotong's geoheritage and are closely intertwined with the cultural identity of local Sasak communities. This study aims to conceptualize a geoheritage-based tourism model that harmonizes environmental conservation and cultural sustainability within the framework of community-based development. Using a qualitative descriptive approach through field observation, semi-structured interviews, and document analysis, the research explores how natural and cultural values coexist to shape Sekotong's tourism potential. Findings reveal that Sekotong's natural landscape is not only a scientific asset but also a cultural space where geological forms influence traditional livelihoods and social practices. Cultural mechanisms such as *awik-awik*, local customary norms promoting ecological balance, together with marine rituals, artisanal crafts using volcanic materials, and oral traditions reflecting respect for the land and sea, demonstrate how local wisdom contributes to heritage preservation. Moreover, the community's collective engagement in marine conservation and sustainable resource use illustrates a form of living harmony between humans and nature. The proposed model integrates three key components: (1) conservation zoning of geological sites, (2) cultural interpretation and educational storytelling to enhance visitor experience, and (3) participatory tourism management led by local communities. These elements form a holistic approach that strengthens destination identity, promotes responsible tourism, and supports long-term sustainability. Hence, Sekotong stands as a representative case where geological heritage and cultural continuity converge, offering a replicable framework for sustainable geotourism development in Indonesia and beyond.

Keywords: Geoheritage, Volcanic Landscape, Cultural Sustainability, Local Wisdom, Sekotong

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A. INTRODUCTION

The Sekotong area is located in the southwestern part of Lombok Island, West Nusa Tenggara, Indonesia, and represents the unique intersection of geological diversity and living cultural heritage. The complex volcanic and sedimentary formations of the landscape provide a record of the island's tectonic history within the Sunda–Banda arc. The features of the area include volcanic breccia, columnar jointing, coral reef terraces, and remnants of epithermal gold mineralization. According to Faesal and others, these features demonstrate the Sekotong area's high geoheritage potential even though the landscape is not enclosed by the core boundaries of the Rinjani Lombok UNESCO Global Geopark. Nonetheless, its geological system is genetically dependent on those of the older formations to the east in western Lombok, and, therefore, has scientific and educational value for a geotourist visiting the region.

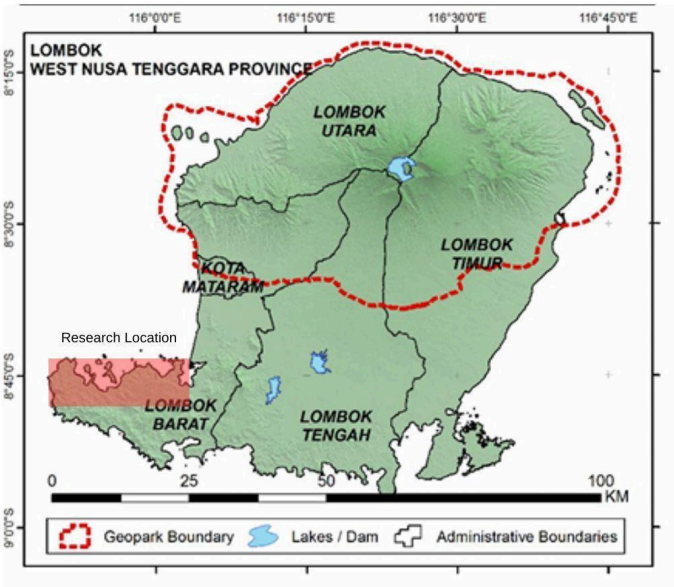

Figure 1. Borders of Rinjani Geopark Area
Source: Dossier National Geopark Rinjani - Lombok

In recent years, the concept of geotourism has gained prominence as a sustainable approach that integrates geological, ecological, and cultural values (Dowling & Newsome, 2018; Gordon, 2022).Responsible travel to geologically significant sites promotes both conservation and development of local communities, and geotourism initiatives are increasingly recognized as strategies for regional socio-economic development (Farsani et al., 2021). Sekotong island is rich not only geologically but also socially hosting the nest-like coastal community of the Sasak ethnic group. Awik-awik is a traditional system that accounts for the sustainable use of marine and terrestrial resources. According to local community residents Mr. Samiin and Mr. Rasyid, it serves the purposes of informal environmental regulations, including balance, prohibition, and collective responsibility. For generations, awik-awik have controlled the coastal community's fishing behavior, coastal land use, and resource management. Thus, it serves as a localized example of ecological ethics as well as a

set of laws regulating interpersonal relationships between members of the community. This also correlates with the recognized importance of local ecological knowledge underlying community-based tourism and conservation.

Using the Sekotong case as an example, it can be concluded that the region has a unique dual potential in both geological and cultural heritage. The above considerations confirmed that the Sekotong region is barely present in the field of academic and policy considerations of sustainable tourism. Although knowledge of Lombok's geotourism has been widely obtained in regards to Mount Rinjani and its Caldera ecosystems, little or no knowledge about how a more peripheral site might contribute to the wider scene of geoheritage conservation. Therefore, the ambition of this study is to develop a framework for geoheritage based tourism, connecting environmental conservation and cultural sustainability in the landscape context of community driven Sasak awik-awik using their local knowledge in the southern coast of Lombok Island. It is expected that this framework may eventually serve as a blueprint for replicated in other regions with a rich coastal geodiversity asset system suitable for community driven geotourism initiatives.

B. RESEARCH METHOD

This study is a type of qualitative descriptive which combines literature review and field interviews using semi-structured questions in order to overview about the integration of Sekotong's geoheritage potential which contains the significant heritage and Sasak customary law. Then, this design was chosen in order to present the value of local people in terms of environment conservation and the cultural value of their own governance which can be explored in numeral surveys. It was conducted in the Sekotong District, West Lombok Regency because the geological formation is known by its volcanic rock and sedimentary and they also provide the unique coastal and upland characteristics. There are also consists of Sasak ethnic who operate the tradional governance system which is included in awik-awik of how the people should act to nature.

The literature study was conducted to gather the existing knowledge of Sekotong's geological features, potential of geosite development and relevant socio-cultural aspects. These references are consist of: the research of Rahmawati et al. addressing geo-site identification at Sekotong including Faesal et al. which enacted the geological study and mineralogi in Brambang nearby; also the official map that provided by Badan Geologi in 2019. These literatures evaluate the existing geological factors which develop the geosite and helped develop the scientific value which intended to developed the educational tourism.

Primary data were collected through semi-structured interviews conducted in Central Sekotong in October 2025. The interviews involved six key informants, consisting of the Village Secretary, the Head of the Village Consultative Body, village officials, and local community representatives. The informants were selected using **purposive sampling**, based on several criteria: (1) individuals who have knowledge about the traditional governance system (*awik-awik*), (2) stakeholders involved in the management of natural resources and tourism activities in Sekotong, and (3) community members who understand the

implementation of local wisdom in environmental conservation. These interviews aimed to obtain qualitative information regarding the role of *awik-awik* in the management of natural resources and community governance. The investigation explored the local community's perceptions of *awik-awik*, focusing on environmental protection, tourism moderation, and the moral relationship between the community and nature.

Figure 2. Interview with Local Communities
Source: Author's Personal Documentation

Data were analyzed through a qualitative thematic approach to identify patterns linking geological characteristics, customary practices, and sustainable tourism principles. Interview transcripts and literature findings were coded and synthesized into conceptual themes, including conservation zoning, cultural storytelling, and participatory management. Triangulation between literature, field documentation, and interview results was applied to ensure data validity. The analysis aimed to produce an integrated understanding of how *awik-awik* functions as a community-based governance system supporting sustainable geotourism in line with the Sustainable Development Goals (SDG 11 and SDG 15).

C. FINDINGS AND DISCUSSION

The geological landscape of Sekotong reflects a dynamic interaction between nature and culture. Sekotong's geological landscape is shaped by volcanic and sedimentary formations, including columnar joints, coral reef terraces, and volcanic breccia associated with the Sunda–Banda arc (Faesal et al., 2022). These formations support both ecological diversity and tourism potential. Previous studies have identified several coastal areas such as Nambung, Bangko-Bangko, and Elaq-Elaq as representative geosites with high scientific and educational value (Rahmawati et al., 2019). However, these landscapes are not perceived merely as geological formations, they are intertwined with local customs, stories, and values

embedded in *awik-awik*, the Sasak customary law that guides how people interact with their environment.

Figure 3. Columnar joint structure as one of the potential geosites in the Rinjani–Lombok Geopark
Source: Rahmawati et al., 2019

Figure 4. Volcanic breccia outcrop at Elaq-elaq Beach, West Lombok
Source: Rahmawati et al., 2019

Figure 5. Pillow lava exposure at Bangko-bangko Beach, indicating submarine volcanic activity formed by rapid cooling of basaltic lava under water.
Source: Rahmawati et al., 2019

Interviews revealed that *awik-awik* related to environmental management in Central Sekotong is currently formalized into two main local regulations. The first, Village Regulation (Perdes) No. 6 of 2023 on the Development of the Tourism Village, governs spatial and management aspects of natural resources, including the zoning of tourist areas and the conservation of coastal cliffs and hills. The second, Perdes LP3ST (Local Coastal and Marine Management Institution), focuses on the coastal zone, establishing customary rules for sustainable fishing, coral protection, and community-based marine conservation (personal communication, October 2025). These dual systems show how local governance has evolved from traditional oral rules into legally recognized mechanisms that embody the same ethical principles of *awik-awik*.

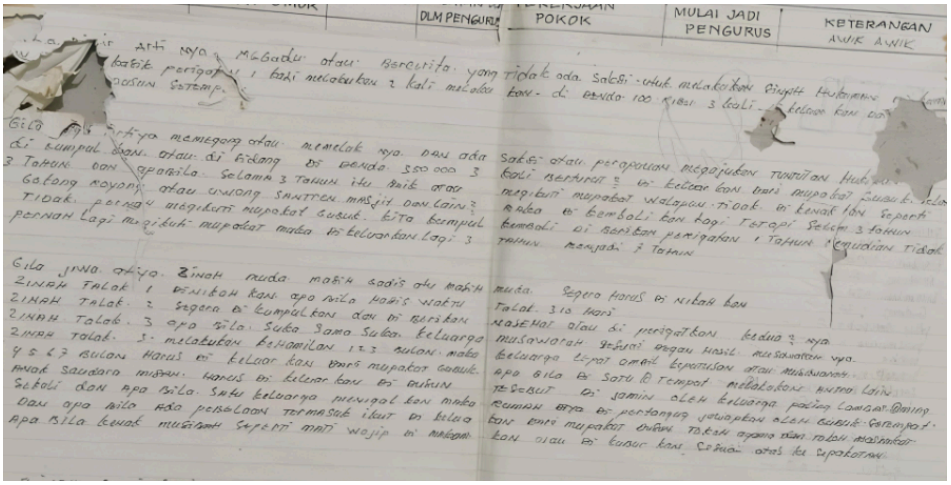

Figure 6. Example of *awik-awik* practiced by the local community in Sekotong
Source: Personal Documentation

Local leaders emphasized that *awik-awik* remains the moral compass of the community, guiding how people interact with their natural surroundings especially at Central Sekotong. functioning as a community-based conservation mechanism that complements scientific approaches to geoheritage preservation **(Bennett et al., 2021).**One elder, Mr. Rasyid as Village Secretary explained that the customary rules prohibit any form of environmental destruction, whether on land or at sea, emphasizing that "our ancestors taught us to protect nature, because it sustains our life" (personal communication, October 2025). The environmental *awik-awik* also includes specific sanctions for instance, cutting a single mangrove tree incurs a customary fine of one million rupiah. Such tangible rules reflect the community's strong ecological ethics and their commitment to preserving coastal and terrestrial ecosystems. Beyond enforcement, *awik-awik* also encourages cooperation, collective responsibility, and respect for sacred landscapes, functioning as a community-based conservation mechanism that complements scientific approaches to geoheritage preservation.

These findings are in line with research highlighting how local wisdom strengthens sustainable tourism and environmental governance in Indonesia (Wijaya et al., 2022)**.** Andari

et al. (2020) emphasized that local values and traditional narratives can enhance tourism authenticity and ecological awareness. Similarly, Yuanita et al. (2025) demonstrated that collaboration between communities and government institutions, grounded in local wisdom, supports participatory and resilient forms of tourism governance. These parallels indicate that Sekotong's *awik-awik* system plays a similar role, translating indigenous moral values into practical conservation and tourism management strategies.

In Sekotong, *awik-awik* functions as a living form of environmental law that overlaps with tangible geological features, turning natural landscapes into culturally protected spaces. This demonstrates an integrative model where cultural norms and geological heritage mutually reinforce one another to promote sustainability. The synthesis of field data and literature suggests that Sekotong's sustainable geotourism framework rests on three interrelated components: conservation zoning, implemented through *awik-awik*-based area regulation that manages terrestrial and coastal zones; cultural storytelling, where traditional narratives, rituals, and teachings give meaning to geological formations and strengthen local identity; and participatory management, reflected in collaborative efforts between communities, village institutions, and government bodies to ensure inclusive governance of natural and cultural resources.

Figure 7. Conceptual model illustrating the integration of Sekotong's geoheritage and *awik-awik* (Sasak customary law) as a framework for sustainable geotourism development.

The conceptual model illustrates how Sekotong's geological landscape provides the physical foundation for tourism potential, while *awik-awik* functions as the cultural mechanism that governs environmental ethics and community-based resource management. By integrating three key components: conservation zoning, cultural storytelling, and participatory management, these natural and cultural systems converge into a unified framework that supports sustainable geotourism. This integration reflects a balance between scientific and traditional knowledge, ensuring that tourism development remains rooted in local values while aligning with global sustainability principles, particularly SDG 11 and SDG 15.

Integrating *awik-awik* into geotourism planning aligns closely with the United Nations Sustainable Development Goals (SDGs), particularly Goal 11.4, which calls for the protection of natural and cultural heritage, and Goal 15, which emphasizes the sustainable use of

terrestrial ecosystems. By embedding local values into governance, Sekotong demonstrates how indigenous institutions can operationalize sustainability principles in a culturally grounded way. This also resonates with the UNESCO Global Geopark concept, where community participation and cultural respect are key pillars of heritage protection.

Nevertheless, several challenges remain in ensuring effective implementation. Coordination between customary institutions and formal tourism authorities is still limited, and management often depends on voluntary compliance rather than consistent institutional enforcement. Strengthening collaboration among local government, customary councils, and tourism stakeholders is therefore essential to ensure that conservation and development proceed hand in hand. Overall, Sekotong exemplifies a holistic model in which geological diversity and cultural wisdom coexist, demonstrating how *awik-awik* can serve as both a moral and practical foundation for sustainable geotourism development.

Overall, these findings reaffirm that sustainable geotourism in Sekotong is best achieved through the synergy of geological uniqueness and cultural wisdom. The coexistence of local customary law and natural formations demonstrates a holistic form of harmony between humans and nature, where protection of the earth's heritage is grounded in cultural continuity and collective responsibility.

D. CONCLUSION

This study reveals that Sekotong's geoheritage and Sasak local wisdom are inseparable elements in shaping a sustainable geotourism framework. The area's geological formations, ranging from volcanic breccia to coral terraces, form the physical landscape, while *awik-awik* functions as a social and moral system guiding communities in managing and protecting their environment. Together, they create an integrative model in which cultural and natural heritage reinforce each other through conservation zoning, cultural storytelling, and participatory management.

The incorporation of *awik-awik* into formal village regulations, such as Perdes No. 6/2023 and LP3ST, demonstrates how indigenous values can evolve into community-based governance mechanisms supporting sustainable tourism. This finding highlights the importance of strengthening collaboration among customary institutions, local governments, and tourism stakeholders to ensure that these values are consistently implemented in destination management. The Sekotong experience therefore offers a valuable reference for other regions seeking to integrate geoheritage conservation with local cultural governance.

Practically, the findings provide implications for tourism policy and destination management by emphasizing the role of local wisdom as a foundation for sustainable tourism planning and environmental protection. Future research is recommended to conduct quantitative assessments of geosite potential and to examine the socio-economic impacts of geotourism development, particularly the role of community participation in coastal and volcanic tourism landscapes.

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